# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/901,317 | 07/09/2001 | Alexandros Biliris | 2000-0280-CON | 9040 |

| | |
|---|---|
| 7590      06/16/2005 | **EXAMINER** |
| Mr. S H Dworetsky | JEAN GILLES, JUDE |

Mr. S H Dworetsky
AT&T CORP.
Room 2A-207
One AT&T Way
Bedminster, NJ 07921

| ART UNIT | PAPER NUMBER |
|---|---|
| 2143 | |

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 09/901,317 | BILIRIS ET AL. |
| | Examiner | Art Unit |
| | Jude J. Jean-Gilles | 2143 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>09 July 2001</u>.

2a)☐ This action is **FINAL**.  2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>09 July 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)  4)☐ Interview Summary (PTO-413)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)      Paper No(s)/Mail Date. _____ .
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  5)☐ Notice of Informal Patent Application (PTO-152)
    Paper No(s)/Mail Date _____.  6)☐ Other: _____.

## DETAILED ACTION

This Action is in regards to the Reply received on 04 February, 2005.

### *Response to Amendment*

2.      This action is responsive to the application filed on February 4th, 2005.  No claims

were amended.  Claims 1-24 are pending. Claims 1-24 represent a method and

apparatus for *"content distribution network brokering and peering"*.

### *Claim Rejections - 35 USC § 102*

3.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.      Claims 1-4, and 19 are rejected under 35 U.S.C. 102(e) as being unpatentable

by Joffe  et al (Joffe) U.S. patent No. 6,5185,619.

**Regarding claim 1:**  Joffe teaches a method of serving content in a packet-

switched network (*fig. 2A 2B*) comprising the steps of:

choosing from a plurality of content distribution networks which content

distribution network will respond to a content request from a client (*column 10, lines 48-*

*67; column 11, lines 1-14*);

redirecting the client to the chosen content distribution network so that the

content request will be served by the chosen content distribution network (*column 13,*

*lines 31-46*).

**Regarding claim 2:**  Joffe teaches the method of claim 1 wherein the content

distribution network is chosen in accordance with a predetermined policy (*column 10,*

*lines 64-67; column 11, lines 1-14*).

**Regarding claim 3:**  Joffe teaches the method of claim 2 wherein the content

distribution network is chosen based on a determination of which of the plurality of

content distribution networks is closer to the client (*column 11, lines 65-67; column 12,*

*lines 1-19*).

**Regarding claim 4:**  Joffe teaches the method of claim 2 wherein the content

distribution network is chosen based on a measurement of load on the content

distribution networks (*column 12, lines 56-67*).

**Regarding claim 19:**  Joffe teaches a brokering domain name system server

(fig. 2A-B) comprising:

a domain name system engine, which is capable of answering domain name

system queries from a client (*column 10, lines 34-67; column 11, lines 1-56*);

a policy module which directs the domain name system engine to answer domain

name system queries in accordance with a predetermined policy which resolves a

domain name to a server in a content distribution network chosen from a plurality of

content distribution networks (*column 10, lines 34-67; column 11, lines 1-56*).

## *Claim Rejections - 35 USC § 103*

5.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.      Claims 5-18, and 20-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bowman-Joffe, in view of Logan et al (Logan)U.S. 6,578,066 B1.

**Regarding claim 5:** Joffe teaches the invention substantially as claimed. Joffe

teaches the content distribution network that is chosen based on a measurement of load

on the content distribution network. However, Joffe is silent on  the content distribution

network is chosen only if the measured load on the content distribution network does

not exceed a pre determined capacity reserved on the content distribution network.

In the same field of endeavor, Logan teaches servers on a network that are being

accessed by users of other regions only if servers on the users' regions are being

overloaded(there is a predetermined capacity for these servers) [see Logan, column 9,

lines 54-67].

Accordingly, it would have been obvious to one of ordinary skill in the networking

art at the time the invention was made to have incorporated Logan' teachings of using

a predetermined capacity on servers in a network with the teachings of Joffe, for the

purpose of increasing tolerance of faults occurring in the underlying hardware and

reliability over prior art web servers as stated by Joffe in lines 4-9 of column 4. By this

rationale, **claim 5** is rejected.

**Regarding claim 6:** The combination Joffe-Logan teaches [CONVOLUTED

URLS] the method of claim 1 wherein the content to be served by the chosen content

distribution network comprises content embedded in a document to be served to the

client [see Logan, *column 3, lines 8-11*].and wherein the step of redirecting the client to

the chosen content distribution network further comprises the step of rewriting

references to the embedded content before serving the document to the client [*see*

*Logan; column 3, lines 22-25*]. The same motivation that was used for claim 5 is also

valid for claim 6 [see Joffe; column 4, lines 4-9]. By this rationale **claim 6** is rejected.

**Regarding claim 7:** The combination Joffe-Logan teaches the method of claim

6 wherein the reference to the embedded content is rewritten to point to a server in the

chosen content distribution network [*see Logan; column 4, lines 49-56*]. The same

motivation that was used for claim 5 is also valid for claim 7 [see Joffe; column 4, lines

4-9]. By this rationale **claim 7** is rejected.

**Regarding claim 8:** The combination Joffe-Logan teaches the method of claim

6 wherein the reference to the embedded content is rewritten to point to a domain name

served by the content distribution network [*see Logan; column 4, lines 49-56*]. The

same motivation that was used for claim 5 is also valid for claim 8 [see Joffe; column 4,

lines 4-9]. By this rationale **claim 8** is rejected.

**Regarding claim 9:** The combination Joffe-Logan teaches teach the method of

claim 6 wherein the reference to the embedded content is rewritten so that the original

reference may be readily parsed from the rewritten reference [*see Logan; column 3, lines 18-25; column 4, lines 47-60*]. The same motivation that was used for claim 5 is also valid for claim 9 [see Joffe; column 4, lines 4-9]. By this rationale **claim 9** is rejected.

**Regarding claim 10:** The combination Joffe-Logan teaches the method of claim 9 wherein the chosen content distribution network can utilize the reference to obtain the embedded content if the chosen content distribution network does not have an up-to-date copy of the embedded content in a cache [*see Logan; column 4, lines 1-9*]. The same motivation that was used for claim 5 is also valid for claim 10 [see Joffe; column 4, lines 4-9]. By this rationale **claim 10** is rejected.

**Regarding claim 11:** The combination Joffe-Logan teaches [DNS OUTSOURCING] the method of claim 1 wherein the step of redirecting the client to the chosen content distribution network further comprises the step of having domain name system queries resolve to content served by the chosen content distribution network [*see Logan; column 5, lines 45-59*]. The same motivation that was used for claim 5 is also valid for claim 11 [see Joffe; column 4, lines 4-9]. By this rationale **claim 11** is rejected.

**Regarding claim 12** The combination Joffe-Logan teaches [A RECORD REDIRECTION] the method of claim 11 wherein the domain name system queries are answered with a network address of content served by the chosen content distribution network [*see Logan; column 5, lines 45-59*]. The same motivation that was used for

claim 5 is also valid for claim 12 [see Joffe; column 4, lines 4-9]. By this rationale **claim 12** is rejected.

**Regarding claim 13:** The combination Joffe-Logan teaches [NS RECORD REDIRECTION] the method of claim 11 wherein domain name system queries are answered with a network address of a domain name system server responsible for the chosen content distribution network [*see Logan; column 5, lines 45-59; column 4, lines 1-16*]. The same motivation that was used for claim 5 is also valid for claim 13 [see Joffe; column 4, lines 4-9]. By this rationale **claim 13** is rejected.

**Regarding claim 14:** The combination Joffe-Logan teaches [CNAME REDIRECTION] the method of claim 11 wherein domain name system queries are answered with a domain name of content served by the chosen content distribution network [*see Logan; column 4, lines 1-16*]. The same motivation that was used for claim 5 is also valid for claim 14 [see Joffe; column 4, lines 4-9]. By this rationale **claim 14** is rejected.

**Regarding claim 15:** The combination Joffe-Logan teaches [TRIANGULATION] the method of claim 11 wherein domain name system queries are forwarded to a domain name server responsible for the chosen content distribution network and which directly answers the domain name system query [*see Logan; column 4, lines 1-16*]. The same motivation that was used for claim 5 is also valid for claim 15 [see Joffe; column 4, lines 4-9]. By this rationale **claim 15** is rejected.

**Regarding claim 16:** The combination Joffe-Logan teaches the method of claim 1 wherein the content distribution network serves the content request from a local cache

and wherein the content distribution network has access to a second copy of the

content if there is a cache miss [*see Logan; column 4, lines 1-9. It is important to note*

*here that the second copy is placed on any site in the network*]. The same motivation

that was used for claim 5 is also valid for claim 16 [see Joffe; column 4, lines 4-9]. By

this rationale **claim 16** is rejected.

**Regarding claim 17:**  The combination Joffe-Logan teaches [TABLE DRIVEN

DISAMBIGUATION] the method of claim 16 wherein the content distribution network

has a table of associations between references to content served by the content

distribution network and references to a second copy of the content served from

elsewhere in the network [*see Logan; column 7, lines 24-35; column 10, lines 17-35*].

The same motivation that was used for claim 5 is also valid for claim 17 [see Joffe;

column 4, lines 4-9]. By this rationale **claim 17** is rejected.

**Regarding claim 18:**  The combination Joffe-Logan teaches [SEMANTIC

MAPPING DISAMBIGUATION] The method of claim 16 wherein the content distribution

network can transform references to content served by the content distribution network

into second references to a second copy of the content served from elsewhere in the

network [*see Logan; column 10, lines 36-65*]. The same motivation that was used for

claim 5 is also valid for claim 18 [see Joffe; column 4, lines 4-9]. By this rationale **claim**

**18** is rejected.

**Regarding claim 20:**  The combination Joffe-Logan teaches the brokering

domain name server of claim 19 wherein the predetermined policy reflects a chosen

content distribution network and redirection mechanism for each of a plurality of regions

of client network addresses [see Logan; *column 10, lines 16-35; column 5, lines 6-14*].

The same motivation that was used for claim 5 is also valid for claim 20 [see Joffe;

column 4, lines 4-9]. By this rationale **claim 20** is rejected.

**Regarding claim 21:** The combination Joffe-Logan teaches the brokering

domain server of claim 19 wherein the policy module further comprises an interface to

information received from the plurality of content distribution networks and wherein the

policy module modifies the predetermined policy in response to the information [*see*

*Logan; column 10, lines 37-65][see Joffe; column 10, lines 64-67; column 11, lines 1-*

*14*]. The same motivation that was used for claim 5 is also valid for claim 21 [see Joffe;

column 4, lines 4-9]. By this rationale **claim 21** is rejected.

**Regarding claim 22:** The combination Joffe-Logan teaches the brokering

domain server of claim 21 wherein the information further comprises load information

and wherein the predetermined policy reflects capacity reserved on each of the plurality

of content distribution networks (*column 5, lines 45-59*). The same motivation that was

used for claim 5 is also valid for claim 22 [see Joffe; column 4, lines 4-9]. By this

rationale **claim 22** is rejected.

**Regarding claim 23:** The combination Joffe-Logan teaches a method of

redirecting content requests between content distribution networks (*fig. 1, item 100*),

comprising the steps of:

receiving a domain name lookup request for content served by a plurality of

content distribution networks (see Joffe; *column 10, lines 34-67; column 11, lines 1-56*);

choosing one out of the plurality of content distribution networks to serve the

content  (see Joffe; *column 10, lines 48-67; column 11, lines 1-14*);

answering the domain name lookup request in a manner such that a subsequent

request for content will be served by the chosen content distribution network (see

Logan; *column 4, lines 1-16; see* Joffe; *column 10, lines 34-67; column 11, lines 1-56*);

The same motivation that was used for claim 5 is also valid for claim 23 [see Joffe;

column 4, lines 4-9].  By this rationale **claim 23** is rejected.

**Regarding claim 24:**  Logan et al teach a method of redirecting content requests

between content distribution networks (*column 5, lines 38-44*), comprising the steps of:

receiving a request for a document which contains one or more embedded

content references (see Logan; *column 3, lines 8-11*);

retrieving the document (see Logan *column 3, lines 8-11*);

choosing one out of a plurality of content distribution networks to serve the

embedded content (*see Joffe; column 10, lines 48-67; column 11, lines 1-14*);

rewriting the document so that the embedded content references point to content

stored at the chosen content distribution network (see Logan *column 3, lines 18-22*);

and

transmitting the rewritten document (*column 3, lines 22-25*). The same motivation

that was used for claim 5 is also valid for claim 24 [see Joffe; column 4, lines 4-9].  By

this rationale **claim 24** is rejected.

### *Response to Arguments*

7.      Applicant's Request for Reconsideration filed on February 04<sup>th</sup>, 2004 has been carefully considered but is not deemed fully persuasive.  Applicant's arguments with respect to claims 1, 19 and 23 have been carefully considered, but are not deemed fully persuasive.  Applicant's arguments are deemed moot in view of the new ground of rejection articulated above.  However, because there exists the likelihood of future presentation of these arguments, the Examiner thinks that it is prudent to address Applicants' main points of contention.

A.  The Logan patent fails to disclose or suggest, and is not all related to redirecting content requests between content distribution networks in claim 1.

B.  Logan does not teach the same concept recited in claim 23  and 24 and that the step 23 requires a receiving a domain name lookup request for content.

8.      As to "Point A" it is the position of the Examiner that Logan in detail does not teach all the limitations of claim 1.  However, the Joffe patent teaches all the limitation of the claim[see rejection of claim 1 above].  Claim 1 remain rejected, but this time, under new reference.

As to "Point B", it is also the Examiner's position that both claims must be rejected under new ground   Claim 23 and 24 are not allowable and are not in condition for allowance.

9.      The dependent claims stand rejected as articulated in the First Office Action and

all objections not addressed in Applicant's response are herein reiterated.


### *Conclusion*

10.     Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action.  Accordingly, **THIS ACTION IS MADE Non-FINAL**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Wiley, can be reached on (571) 272-3923. The fax phone number for

the organization where this application or proceeding is assigned is (703) 305-3719.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

Jude Jean-Gilles

Patent Examiner

Art Unit 2143

JJG

June 12, 2005
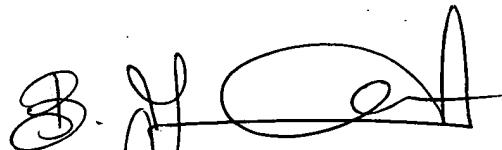
BUNJOB JAROENCHONWANIT
PRIMARY EXAMINER